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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,408	09/23/2003	Matthias Boltze	008388-09	1075

25570 7590 02/09/2007
ROBERTS, MLOTKOWSKI & HOBBES
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EXAMINER	
HANDAL, KAITY V	
ART UNIT	PAPER NUMBER
1764	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/667,408	BOLTZE ET AL.	
	Examiner	Art Unit	
	Kaity Handal	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/21/2006 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 has the limitation "a pressure holding valve", is this pressure holding valve different from the one in claim 1?

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 3-6 are rejected under 35 U.S.C. I03(a) as being unpatentable over Kohne et al. (WO 2000/06948) in view of Ariga et al. (US 5,425,342)

Regarding claims 1, 3-6, Kohne et al. discloses: a fuel cell system with a reformer (P17/L1 1-P23/L20); a mixture formation means (Fig. 8 and 9a-9c) comprising: - a fuel feed means (1); - an air feed means (2); - a mixture formation area (4); - a fuel heating means (P16/L10-18) which achieves complete vaporization of the fuel and operates at temperatures of 520K to 880K or 246°C to 607°C (P 3/L5-9 and P 5/L27 - P 6/L5); wherein the mixture formation area (4) is supplied with air (2) and is positioned downstream of the fuel heating (since it is discloses as "preheating"; P 16/L10-18) and includes a swirl chamber (4) into which a nozzle (7) connected to the fuel injection means discharges (Fig. 8 and 9a-9c); wherein the fuel heating means is positioned upstream of the fuel feed means for preheating the fuel before injection to the mixture formation area (P 16/L10-18); and wherein air feed means (2) includes an air heater (8).

Kohne et al. does not disclose wherein the fuel feed means comprises a pressure impulse injection means which comprises a fuel pump and a changeover valve having an input side connected to the fuel pump, and an output side that is selectively connectable with the fuel source via a fuel return line and a fuel supply line containing the fuel heating means, for directing fuel from the pump to either the fuel supply line or the fuel source; wherein a pressure holding valve having a holding pressure is located in the fuel return line. Ariga teaches a fuel feed means (fig. 1) wherein the fuel is supplied using a pressure impulse injection means including a

fuel pump (14) and a changeover valve (16) having an input side connected to the fuel pump (14) (as illustrated), and an output side that is selectively connectable with the fuel source (12) via a fuel return line (22) and a fuel supply line (19) for directing fuel from the pump (14) to either the fuel supply line (19) or the fuel source (12) (col. 3, lines 8-12 and lines 22-29); wherein a pressure holding valve (24) having a holding pressure is located in the fuel return line (22) in order to maintain the pressure differential across the fuel injectors at a first predetermined level and perform pressure regulation (col. 3, lines 4-27).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include the pressure impulse injection means comprising a fuel pump and a changeover valve having an input side connected to the fuel pump, and an output side that is selectively connectable with the fuel source via a fuel return line and a fuel supply line containing the fuel heating means, for directing fuel from the pump to either the fuel supply line or the fuel source; wherein a pressure holding valve having a holding pressure is located in the fuel return line, and connected to the fuel feed means of the mixture formation means in Kohne's apparatus, as taught by Ariga et al., in order to maintain the pressure differential across the fuel injectors at a first predetermined level and perform pressure regulation.

With respect to claims 1, 3-6, claims describe operational conditions and do not limit the invented apparatus. While features of an apparatus may be recited either structurally or functionally, claims directed to apparatus must be distinguished from

the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQZd 1429, 1431-32 (Fed. Cir. 1997), see also *In re* Swinehad, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971); *In re* Danly, 263 F 2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does." Hewlett-packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original). MPEP 2114.

Response to Arguments

35 USC 112 Rejection

Rejection made to claims 1-6 under 35 USC 112 is withdrawn by examiner due to applicant's amendment. However a new 35 USC 112 rejection is made as set forth above.

Applicant's arguments with respect to claims 1, 3-6 have been considered but are moot in view of the new ground(s) of rejection as necessitated by the amendment..

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaity Handal whose telephone number is (571) 272-8520. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KH

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2/3/2007

Supervisory Patent Examiner
Technology Center 1700